

A Matter of Fact, A Matter of Choice: The Case for Investing in Permanent Contraceptive Methods

EngenderHealth White Paper

Introduction

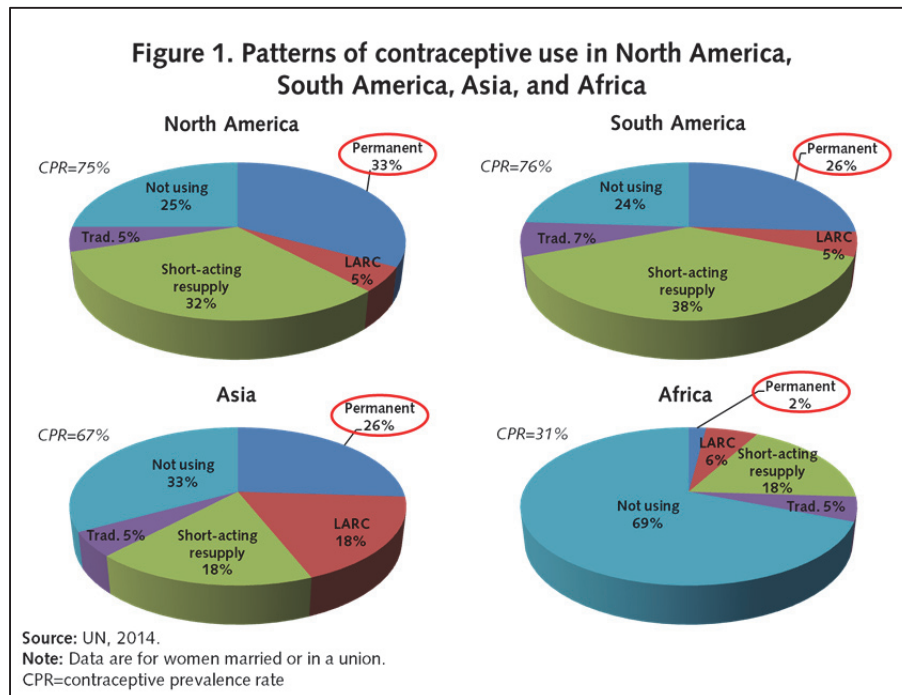
Remarkable social, health, and economic gains have been made since the launch of the United Nations (UN) Millennium Development Goals (MDGs) in 2000. Key global trends—the increasing education, empowerment, participation, and agency of women and girls; later age at marriage; improved child survival; rapid urbanization, with its higher costs of living; and the spread of global communication and social media—are all driving smaller desired family size. The small family norm is well on its way to becoming a universal norm.

These dynamics are leading to a growing demand for modern contraception, an increasing proportion of which is demand for means to end further childbearing, after the desired family size has been attained. Millions of women and couples are spending one-half to two-thirds of their three-decade reproductive lives as such “limiters.” Indeed, the number of limiters has never been higher. Other important and sometimes underappreciated facts include:

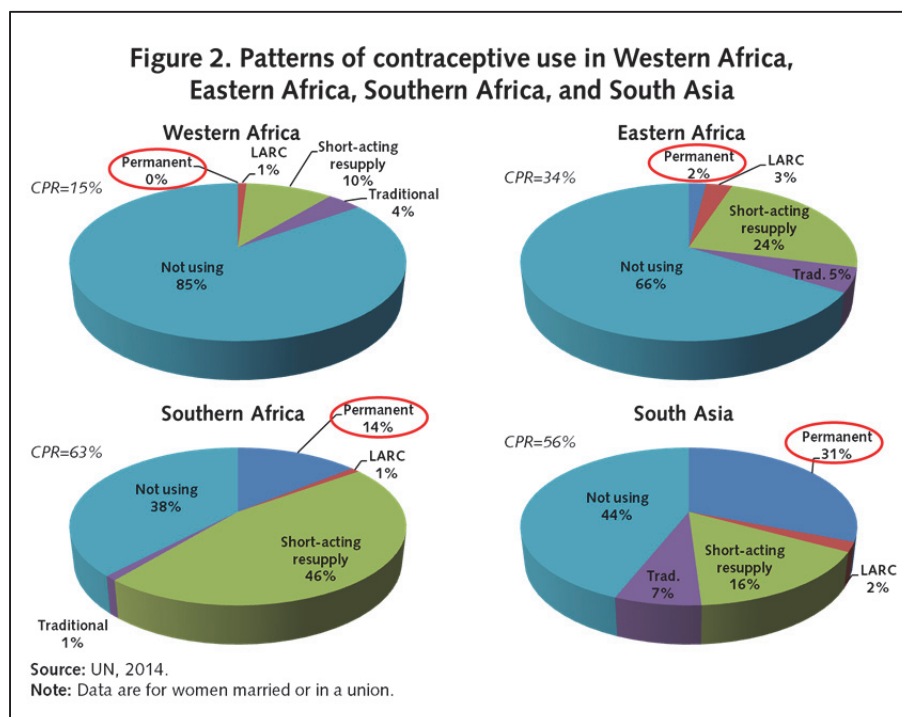
- Demand to limit births now exceeds demand to space births in every region of the world except West and Central Africa, and the average age at which demand to limit exceeds demand to space is falling in many countries, to as low as age 23 or 24. (Van Lith, Yahner, & Bakamjian, 2013).
- Over 250 million women and men worldwide rely on a permanent contraceptive method—female sterilization or vasectomy—to achieve their intention to limit further childbearing (UN, 2012).
- Female sterilization is the most widely used contraceptive method in the world, with more than 220 million women relying on it, representing 19% of all women who are married or in a union (UN, 2014).

Yet despite these facts, and an international consensus on the importance of ensuring a broad choice of methods to meet clients’ needs across their reproductive life cycle (WHO, 2014; Ross & Stover, 2013), individuals and couples in low-resource countries and regions cannot access permanent methods to the extent that individuals and couples in higher-resourced countries and regions can (Figures 1 and 2, page 2, and Table 1, page 4). Investments in family planning by national governments and donor agencies have not kept pace with demand, and more than 220 million women in low-resource countries have an unmet need for modern contraception (Singh & Darroch, 2012). Moreover, permanent methods have not been a focus of renewed attention and resources from donors, policymakers, and program leaders the way long-acting reversible contraceptive methods (LARCs) and short-acting resupply methods recently have been (Dalberg Global Development Advisors & RHSC, 2014; RESPOND Project, 2013).

Contraceptive security therefore remains incomplete (Wickstrom & Jacobstein, 2011), with millions of individuals and couples lacking choice from among a full range of modern methods aligned with their desire to limit further childbearing. In Sub-Saharan Africa alone, where use of permanent methods is markedly lower than in other regions (see Figure 1), 32 million women have an unmet need for limiting (UN, 2012). Millions of other women in Sub-Saharan Africa who are deemed to have a “met need” for limiting are using less-effective and less-convenient short-acting resupply or traditional methods to achieve this reproductive intention, because their access to permanent methods is circumscribed.



Within this context, this White Paper provides data on use of permanent methods, analyzes the challenges to their wider availability, and describes different programming approaches that have resulted in widespread, equitable provision of permanent methods at a national scale in two Sub-Saharan African countries (Malawi and Tanzania). The paper makes the case that increased investments in information and services for permanent method are needed. Making permanent methods widely available and equitably accessible as a voluntarily chosen method option in the family planning programs of low-resource countries is not only feasible, cost-effective, and popular with clients—it is an ethical imperative.

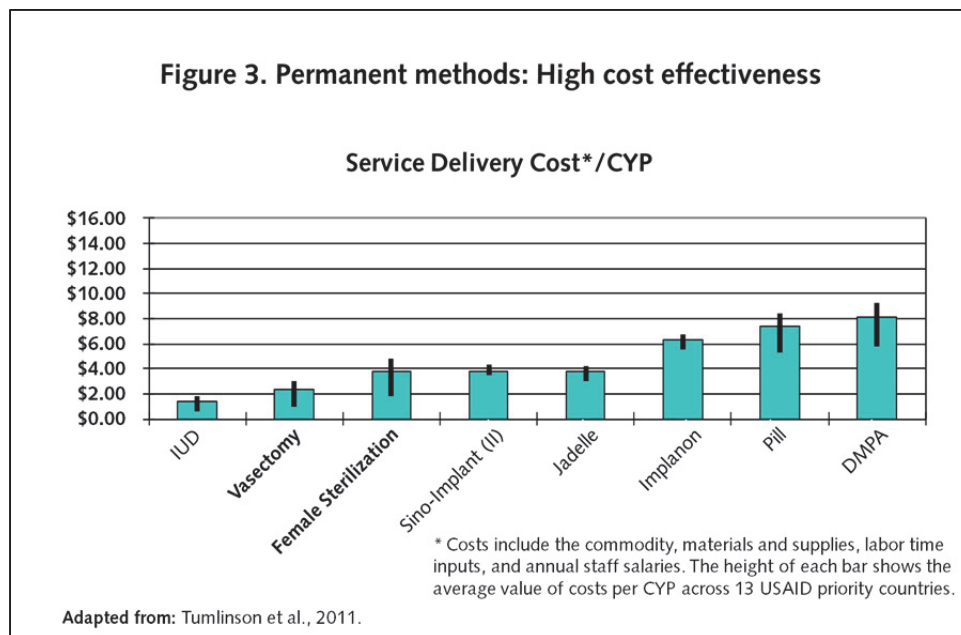


The many positive attributes of permanent methods

Not all individuals will want, need, or choose to rely on a permanent method to realize their reproductive intention to limit further births. However, available evidence indicates that a large subset of women and couples served by family planning programs in low-resource countries would opt for a permanent method if it were available and accessible, just as women and couples do in higher-resourced settings. Almost all women and men who desire a permanent method are medically eligible to receive one (WHO, 2010).

As the only two methods intended to be permanent, female sterilization and vasectomy have a number of characteristics that are congruent with the intent to limit: Both methods are convenient, safe, and highly effective, entailing only one client action to secure lifelong contraceptive protection thereafter via a relatively simple surgical procedure that can be performed under local anesthesia in an outpatient setting (EngenderHealth, 2002; WHO, 1992.) Both methods can be provided during the postpartum period or at subsequent intervals. That permanent methods are nonhormonal also appeals to many clients. When appropriately trained, several cadres of providers, including nonspecialist doctors, clinical officers, assistant medical officers, and health officers, can provide either method (WHO, 2013).

Complication rates for permanent methods are low, and major morbidity or mortality is rare. In the hands of skilled providers, failure rates for both permanent methods are very low, occurring at a rate of 1.5 to 5.0 unintended pregnancies per 1,000 women in the first year of use (Trussell, 2011) and less than 2% over the first 10 years of use (ACOG, 2013).¹ Permanent methods are also among the most cost-effective of all modern methods in terms of service delivery cost per couple-year of protection (CYP), as seen in Figure 3 (Tumlinson et al., 2011). The service delivery cost per CYP of vasectomy is half that of female sterilization and is half to one-third that of a hormonal implant.



¹ Although “permanent” does not mean “infallible,” these failure rates are many orders of magnitude lower than those for resupply methods. For example, in typical use of the injectable, oral contraceptive, and male condom, there are, respectively, 60, 90, and 180 unintended pregnancies per 1,000 women within the first year of use (Trussell, 2011).

High-resource countries have a broad method mix and high use of permanent methods

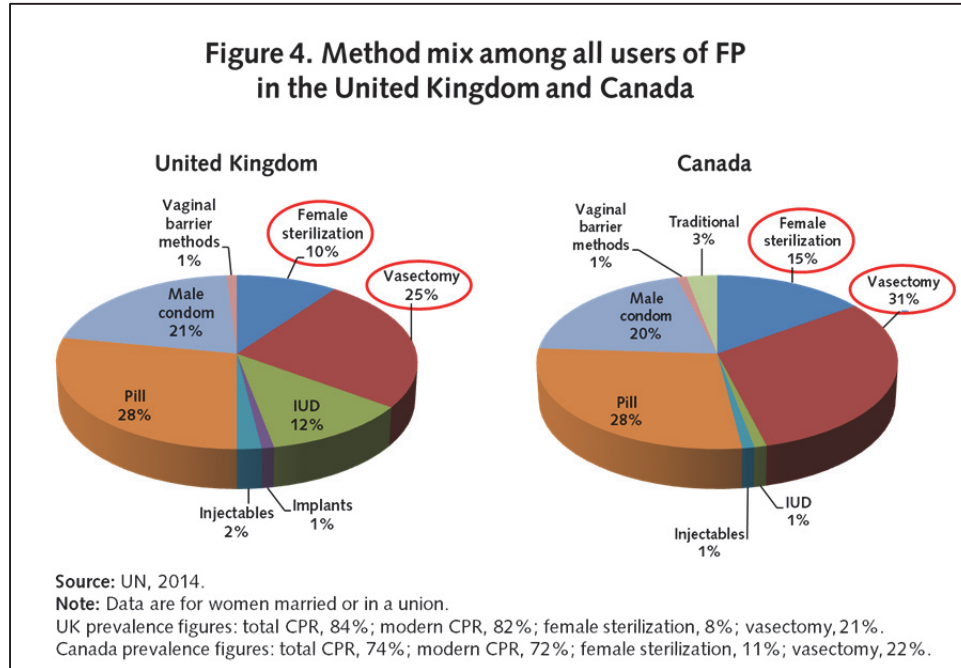
Permanent methods are widely used in countries of “developed regions” (according to United Nations terminology), as well as in the better-resourced countries of “developing regions” (Table 1). Because low-resource countries are trending toward the smaller desired family size, higher family planning demand, greater method choice, and higher modern method use found in higher-resourced countries, it is instructive to consider contraceptive use patterns in such countries as Canada and the United Kingdom. Although there is no single “ideal,” “correct,” or “optimal” contraceptive method mix (patterns of use have many sociocultural, client, provider, and health system determinants), the use patterns in these and other high-resource countries suggest that women and men in lower-resourced countries might choose permanent methods in sizable proportions if their options were expanded to include these methods.

Table 1. Reproductive intentions and use of permanent methods in selected countries, by demand to limit					
Country	Demand to limit* (%)	Demand to space† (%)	Modern method use‡ (%)	Female sterilization prevalence (%)	Vasectomy prevalence (%)
United Kingdom	NA	NA	84	8	21
United States	NA	NA	73	24	13
Canada	NA	NA	72	11	22
Thailand	NA	NA	80	27	1
Brazil (1996)	70	18	77	29	5
Colombia (2010)	65	22	73	35	3
India (2005–2006)	58	11	49	37	1
South Africa (2003)	55	19	60	14	0.7
Bangladesh (2011)	53	22	52	5	1
Rwanda (2010)	46	33	45	0.8	0.0
Indonesia (2010)	45	30	58	3	0.2
Kenya (2008–2009)	42	30	39	5	0.0
Malawi (2010)	40	33	42	10	0.1
Tanzania (2010)	18	30	27	4	0.0
Dem. Rep. of Congo (2007)	12	33	6	0.8	0.0
Nigeria (2013)	11	29	10	0.3	0.0
Sources: Most recent Demographic and Health Survey (DHS) for each country, if year is indicated in the first column; otherwise, UN, 2014. Data are for currently married or in-union women. Figures are rounded to the nearest 1%, unless below 1%. *Demand to limit consists of modern method use to limit plus unmet need for modern methods to limit. †Demand to space consists of modern method use to space plus unmet need for modern methods to space. ‡Excludes traditional method use. <i>Note:</i> NA=not available.					

United Kingdom and Canada

The United Kingdom (UK) and Canada have strong enabling environments for family planning and reproductive health, with universal knowledge of modern contraceptive methods, high gender equity, universal access to a range of contraceptive methods and services, and very low unmet need for family planning. Even without organized national family planning programs, both countries have high modern method use, a broad method mix, and substantial use of permanent methods, including prominent reliance on vasectomy, as seen in Figure 4. Among married and in-union women, permanent methods

account for 46% of all modern method use in Canada and 35% of such use in the UK (UN, 2014). Vasectomy use alone accounts for almost one-third of all modern method use in Canada and one-quarter of such use in the UK. (These figures include both women who want to space births and women who want to limit births; the proportion of permanent method use among only those women using contraception to limit is therefore even higher.)

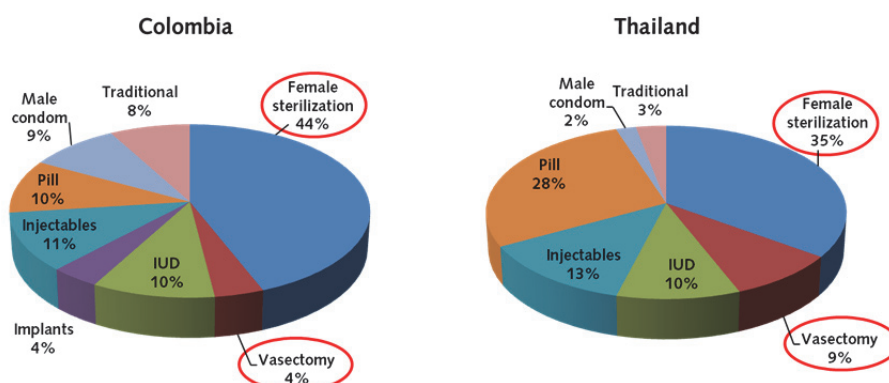


Colombia and Thailand

Colombia and Thailand, both relatively wealthy countries but still classified by the UN as “less developed,” have implemented longstanding, successful programs to make a broad range of modern contraceptive methods and services widely known, widely available, and equitably accessible. Both countries, and others like Brazil and Mexico, have achieved a diversified method mix, with levels of contraceptive use comparable to or exceeding those in countries of Northern America and Western Europe. Knowledge of permanent methods is universal, the modern contraceptive prevalence rate (MCPR) is high, a wide range of methods are available and accessible, and reliance on permanent methods is substantial. Permanent method use comprised 42% of all modern method use in Thailand in 1987 (Figure 5, page 6) (Chayovan, Kamnuansilpa, & Knodel, 1988) and 35% of such use in 2006 (UN, 2012). In 2010, 52% of all modern method use in Colombia consisted of permanent methods (Profamilia, 2011). In both countries, female sterilization is the predominant permanent method.

The public sector provides the major share of permanent methods in both countries: 91% of female sterilizations and 66% of vasectomies in Thailand (Chayovan et al., 1988); 75% of female sterilizations and 51% of vasectomies in Colombia (Profamilia, 2011). The public sector in Colombia has been meeting an increasing proportion of the steadily increasing demand for permanent methods (Table 2, page 6). Profamilia (the Colombian affiliate of the International Planned Parenthood Federation), which was largely responsible for the introduction and scale-up of permanent methods in Colombia in the 1980s and 1990s, continues also to be a substantial service provider, accounting for 46% of vasectomies and 24% of female sterilization procedures.

Figure 5. Method mix among all users of FP in Colombia and Thailand



Sources: Profamilia, 2011; and Chayovan, Kamnuansilpa, & Knodel, 1988.
Secondary analysis conducted by the RESPOND Project.

Note: Data are for women married or in a union.

Colombia prevalence figures: total CPR, 79%; modern CPR, 73%; female sterilization, 35%; vasectomy, 3.4%.
Thailand prevalence figures: total CPR, 68%; modern CPR, 66%; female sterilization, 23%; vasectomy, 5.7%.

Table 2. Colombia: Trends in permanent method provision and use, 1995–2010

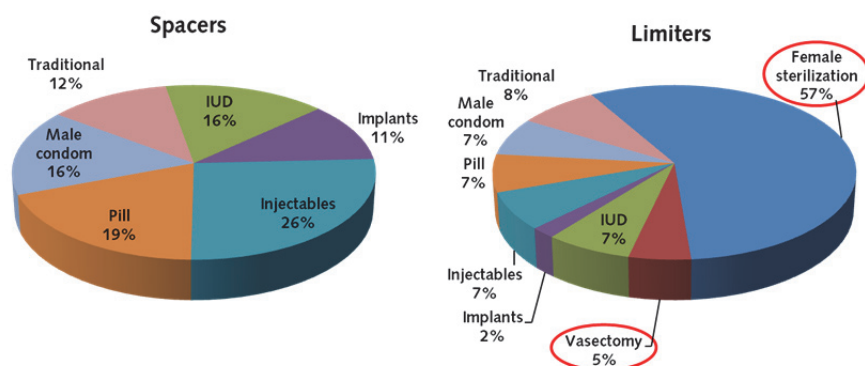
	1995	2000	2005	2010
Female sterilization	26%	27%	31%	35%
% provided by public sector	40	43	63	75
% provided by Profamilia	48	41	31	24
% provided by others	12	16	6	1
Vasectomy	0.7%	1.0%	1.8%	3.4%
% provided by public sector	22	12	33	51
% provided by Profamilia	76	74	47	46
% provided by others	2	13	12	1

Source: Profamilia, 2011. Data are for women married or in a union.

The method mix is broadly diversified in both countries, as seen in Figure 5. The method mix among women using FP to limit in Colombia reflects an increasing reliance on LARCs and permanent methods (Figure 6), as opposed to short-acting resupply methods and traditional methods. This increased reliance on clinical methods is expected in situations of wide access, broad method choice, and high demand for limiting. Thirty-eight percent of all married or in-union women in Colombia rely on a permanent method, and levels of female sterilization use are the same in urban and rural areas (35%).

In Thailand, by 1987, use of sterilization in rural areas (22%) was comparable to that in urban areas (26%). These findings underscore the popularity of permanent methods (especially female sterilization) in both countries and their wide and fairly equitable accessibility and use.

Figure 6. Method mix among spacers and limiters in Colombia



Source: Profamilia, 2011. Secondary analysis conducted by the RESPOND Project.
Note: Data are for women married or in a union.

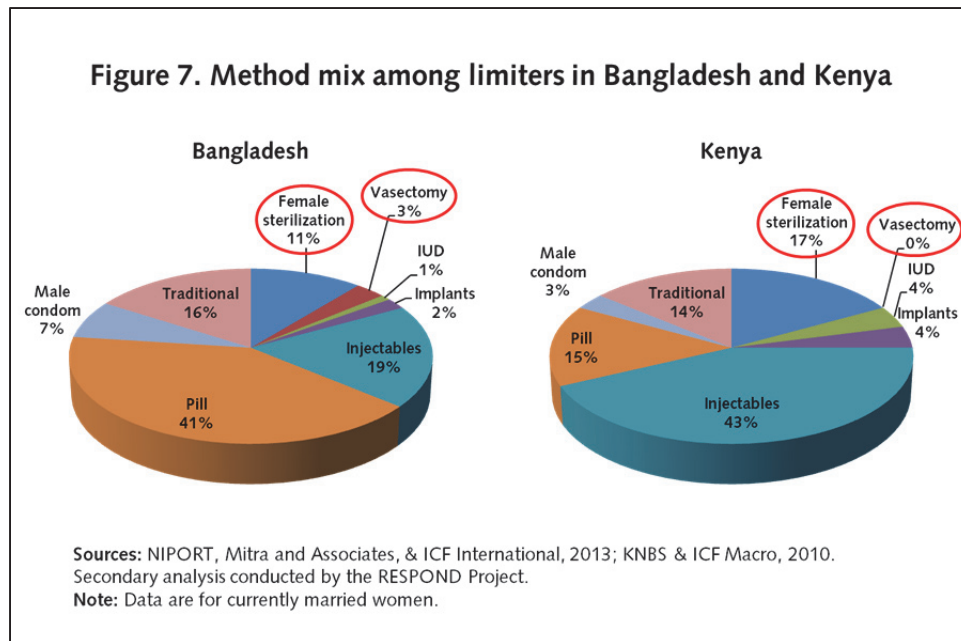
Low-resource countries have lower availability, access to, and use of permanent methods

Kenya and Bangladesh

Kenya and Bangladesh have had longstanding, largely successful national family planning programs that have intermittently implemented initiatives to increase knowledge and use of permanent methods, mainly female sterilization. In Kenya, such efforts have fallen off over the last 10–15 years, and family planning program performance has plateaued (Jacobstein et al., 2009) in the face of competing demands and countervailing factors, such as the shift in program and donor focus to the HIV epidemic, political instability, and decentralization of health services. Not surprisingly, knowledge of permanent methods—a prerequisite to their use—has declined among Kenyan women. Knowledge of female sterilization fell from 82% in 1988 to 67% in 2008, and knowledge of vasectomy dropped from 48% to 38% (KNBS & ICF Macro, 2010). Although the MCPR has risen to almost 40%, the total wanted fertility rate of 3.4 children per woman is more than one child less than the actual total fertility rate of 4.6 lifetime births per woman. Although 54% of all Kenyan women desire no more children, and demand to limit births (41%) exceeds demand to space births (30%), the prevalence rate for female sterilization is essentially unchanged (6% in 1998; 5% in 2008–2009), and vasectomy use remains negligible. As seen in Figure 7, among currently married Kenyan women using any family planning method to limit, almost two-thirds of them use short-acting hormonal methods, which must be accessed every three months or taken every day. The proportion of women using a permanent method (female sterilization) to limit future births (17%) barely exceeds the proportion using traditional methods (e.g., withdrawal) to do so (14%).

Contraceptive use patterns are similar in Bangladesh, due in part to a shift in donor priorities for the national family planning program. The total fertility rate has declined markedly, from 6.3 lifetime births per woman in 1975 to 2.3 in 2011, and the MCPR has risen from 5% to 52% over this same period (NIPORT, Mitra and Associates, & ICF International, 2013). Ideal family size is now 2.2 children per woman, and demand to limit has risen to 53%, including to 82% among women with two children and 92% among women with three children. However, the prevalence rate for permanent methods has declined in Bangladesh, as has their share of the method mix. In 2011, permanent method use was only 6% (female sterilization, 5%; vasectomy, 1%), representing one in every 10 users of contraception. This is a decline from 1991, when the prevalence rate for permanent methods was 10% (female sterilization 9%; vasectomy 1%), representing more than one in three users of modern contraception and one in four users of any form

of family planning. Two-thirds of Bangladeshi women who were using contraception to limit in 2011 were using the pill, condom, or a traditional method (Figure 7). Only 14% were relying on one of the two permanent methods, lower than the percentage of women (16%) using traditional methods to limit. These contraceptive use patterns among women who want to limit further childbearing in Bangladesh and Kenya (i.e., dominance of traditional methods and short-acting resupply methods, or even nonuse of contraception) are typical of the patterns of use among limiters seen in most low-resource countries.



Nigeria and the Democratic Republic of the Congo

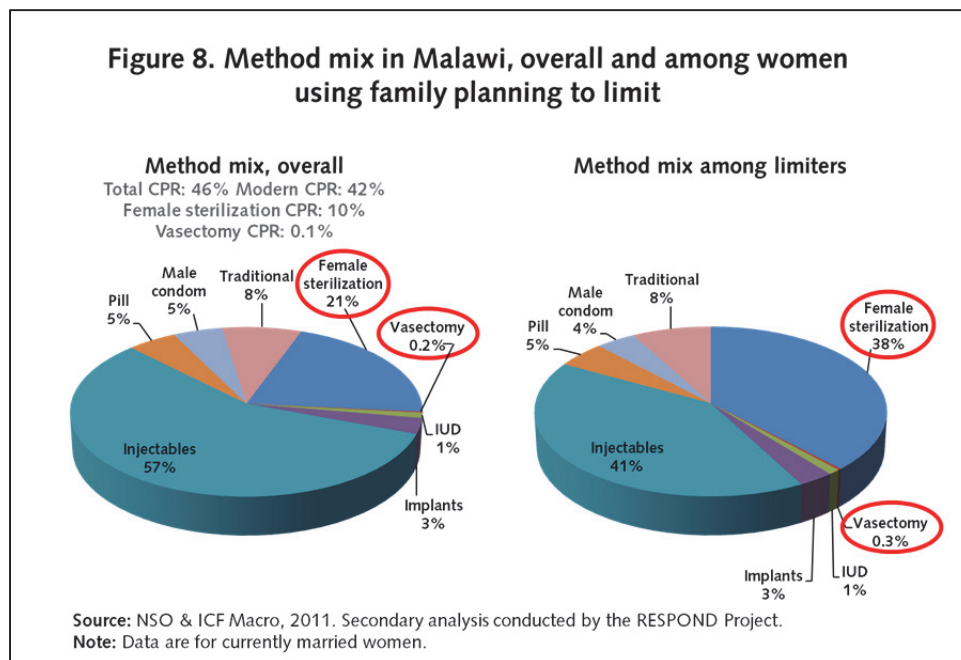
Nigeria and the Democratic Republic of the Congo (DRC), the most populous countries in West and Central Africa, respectively, typify the situations and challenges found in these two regions, where MCPRs are among the world's lowest. Both countries are dealing with armed conflict, ethnic strife, and humanitarian crises. The ideal family size remains high, at more than six children per woman, and has declined only slightly over the past two decades. The MCPR is less than 10% in Nigeria (NPC & ICF International, 2014) and less than 8% in the DRC (Ministère du Plan et Suivi de la Mise en oeuvre de la Révolution de la Modernité, Ministère de la Santé Publique, et MEASURE DHS, 2014). The prevalence of female sterilization use is correspondingly very low: 0.7% in the DRC and 0.3% in Nigeria, little changed from the 0.2% prevalence in each country in 1990. Similarly, the prevalence of vasectomy use remains negligible in both countries. In Nigeria, knowledge of female sterilization is only 44% among married women and 50% among married men. Knowledge of vasectomy is even lower, at 16% and 30%, respectively. One-quarter of urban women in both countries, however, do not want more children. These data, as well as programming experience from other regions, suggest the need for modest, urban-based, “demonstration”-type initiatives, aimed at increasing knowledge of and access to permanent methods. This would broaden the available choice of methods to help meet the demand to limit, even as demand to space remains predominant.

Two models for providing permanent methods at scale: Malawi and Tanzania

Although they face many health and development challenges, Malawi and Tanzania are two low-resource countries that have successfully increased the availability of, access to, and use of permanent methods at national scale, using somewhat different programming approaches. These approaches are worthy of consideration and replication by other low-resource countries in Sub-Saharan Africa and elsewhere.

Malawi: Public-private partnerships and mobile services lead the way

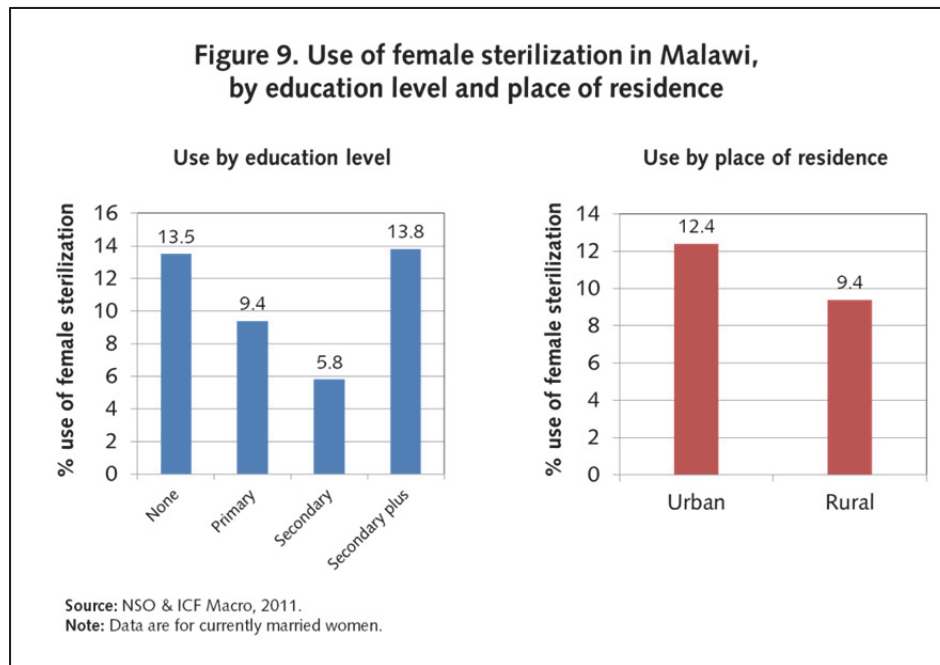
Malawian women are choosing female sterilization at levels of use not only among the highest in Africa, but at levels comparable to those in countries that are far more highly resourced (Table 1). Female sterilization is the second most widely used of all contraceptive methods in Malawi (Figure 8), with one in every 10 married women relying on it (NSO & ICF Macro, 2011). Among women using family planning to limit births, four in every 10 (38% rely on female sterilization to achieve that reproductive intention. The method is widely and equitably accessed, with rural prevalence (9%) nearly as high as urban prevalence (12%), and use high among all educational strata (Figure 9, page 10). Such substantial and equitable service provision is particularly noteworthy for a provider-dependent and health system-dependent method. Furthermore, these results have been achieved in the face of daunting obstacles: Malawi is among the world's 10 poorest countries; 90% of the population live on less than US\$2 per day; 81% live in rural areas; 71% of women have no education or have not completed primary school; HIV prevalence among adults is 11%; and there is less than one doctor for every 40,000 Malawians, with only 334 generalist and specialist medical practitioners in the entire country (Jacobstein, 2013).



What accounts for Malawi's remarkable success in making female sterilization so widely and equitably accessible? First, the prerequisites are in place: Knowledge of female sterilization is almost universal (93%); demand to limit births is high (40%, exceeding the demand to space); and overall use of modern contraception is also high (a 42% MCPR). Second, service policies are favorable, mandating that family planning be free in the public sector, permitting task-shifting, and welcoming public-private partnerships. Such partnerships, whereby the clinical staff of private organizations provides services on behalf of the government, have been very effective in increasing availability, access, and use.

Two long-established, nonprofit nongovernmental organizations (NGOs), the Christian Health Association of Malawi and Banja La Mtsogolo (BLM), the Malawian affiliate of Marie Stopes International, together account for 43% of female sterilization procedures performed in Malawi (NSO & ICF Macro, 2011). BLM alone is credited with providing 33% of the procedures and is likely responsible for a substantially greater share (Jacobstein, 2013). BLM staff provided more than 170,000 female sterilization procedures from 2008 through 2011. All procedures were performed by clinical officers, not doctors. Ninety-five percent of the procedures were provided free of charge, via mobile outreach teams

working in 27 of Malawi's 28 districts. The ratio of 19 free procedures provided during mobile outreach to one procedure that entailed a fee (in fixed BLM clinics) underscores the high cost-sensitivity of female sterilization and other clinical services in countries with widespread poverty like Malawi. It also suggests that it is not only “mobility” (i.e., bringing services closer to underserved rural communities) that leads to higher service access and method use; it is also that the services are provided free of charge to clients. (The costs are largely borne by international donors; in this case, BLM received substantial, consistent, long-term funding from the UK's Department for International Development.)



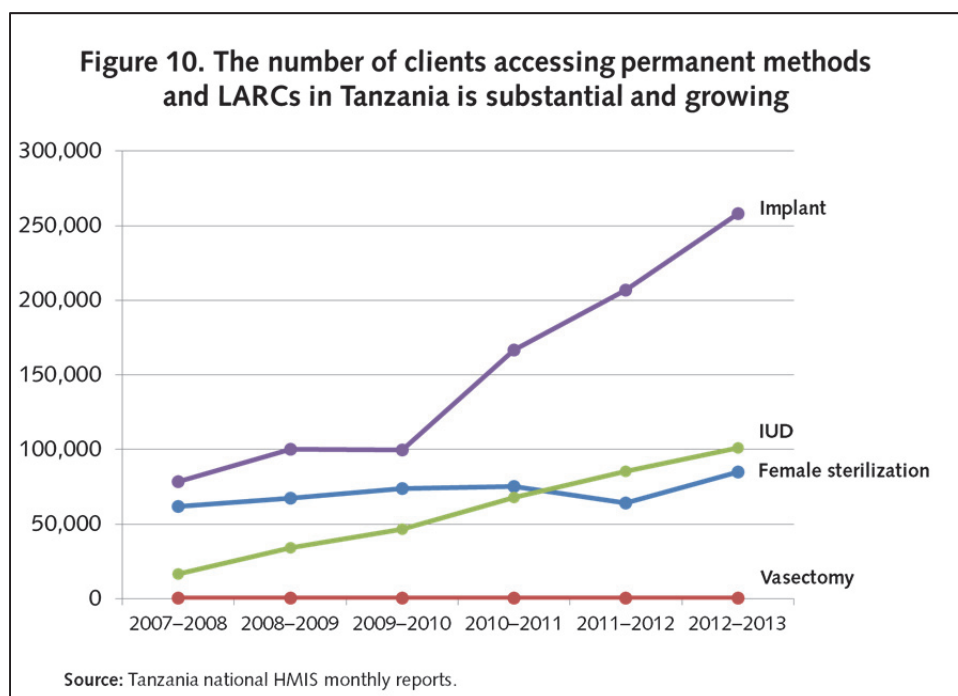
Despite Malawi's success in making female sterilization more widely accessible, several challenges remain. One-third of all women who have a demand to limit also have an unmet need—that is, despite their reproductive intention to limit, they are using no family planning method at all (NSO & ICF Macro, 2011). And among the two-thirds of women with a demand to limit who are using a contraceptive method, the majority uses either a short-acting resupply method or a traditional method (Figure 8). As noted above, such a pattern of method use contrasts markedly with patterns of use seen in countries with universal access to modern contraception and is associated with much higher failure (unintended pregnancy) rates (Trussell, 2011). More than 40% of the women who use female sterilization in Malawi were 35 or older when they received their procedure, and 16% were 40–49, even though the age at which the demand to limit in Malawi exceeds the demand to space is 29 (Van Lith et al., 2013). The mean parity of female sterilization users, 6.7 births per woman, substantially exceeds the mean ideal number of children of five per woman (NSO & ICF Macro, 2011).

Finally, as in any highly donor-dependent initiative, sustainability is a concern. In the absence of external donor funding, the costs of ongoing, reliable, good-quality female sterilization (and other clinical method) service provision would have to be borne by the national health system. This would entail payment of salaries (either directly, or via contracting out the service provision to NGOs or private providers), payment of transport costs, procurement of necessary medical equipment and expendable supplies, and maintenance of adequate supervision and quality control (EngenderHealth, 2002). Nevertheless, the Malawi experience confirms that, as in other regions of the world, many women in Sub-Saharan Africa will choose to use a permanent method when it is made available, accessible, and affordable.

Tanzania: The public sector delivers permanent methods (and LARCs) at national scale

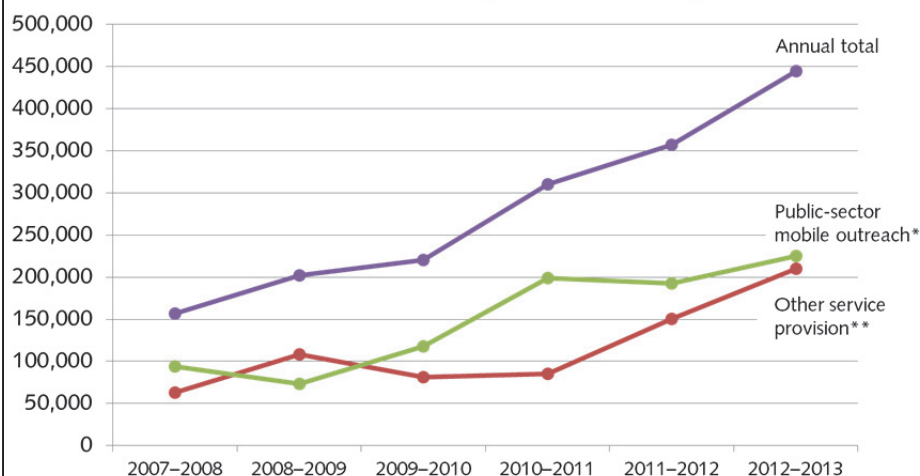
Tanzania's recent experience illustrates what can be achieved by the public sector, not only in terms of service provision, but also in terms of a government's increased commitment to making family planning more widely available and accessible, including its enhanced capacity to operationalize this commitment. Tanzania, like Malawi, is a poor, highly rural country with gradually falling desired family size, rising modern contraceptive use, rising demand to limit, increasing use of clinical methods, and reliance on mobile service delivery to reach underserved individuals and communities. The public sector is the source of supply for 65% of the contraceptive methods provided in Tanzania, including 65% of the female sterilizations (and 92% of the implants), according to the 2010 Tanzania DHS (NBS and ICF Macro 2011).²

Overall, as seen in Figures 10 (below) and Figure 11 (page 12), more than 1.6 million Tanzanian women received a permanent method or LARC between 2007 and 2013, via several service modalities. Almost 420,000 women chose female sterilization, with 60,000–75,000 procedures provided annually. Not only has Tanzania's MCPR increased, from 17% in 1999 to 27% in 2010 (NBS and ICF Macro 2011), but the method mix has diversified. More than 30% of limiters rely on a permanent method or a LARC, with female sterilization their second most widely-used method (Figure 12, page 12). Female sterilization prevalence is almost 4%, one of the higher levels in Sub-Saharan Africa. One in eight users of modern contraception in Tanzania rely on female sterilization for their contraceptive protection. Among women using family planning (including traditional methods) to limit, almost one-quarter (23%) rely on female sterilization. As in all Sub-Saharan African countries, vasectomy use occurs, but it is insignificant in numerical terms. Family planning methods and services are provided free of charge in the public sector.



² “Religious/voluntary organizations” are the source of supply for 23% of female sterilizations and 2% of implants; “private/medical, other private, and other” are the source of supply for 9% of the female sterilizations and 6% of the implants. Source of supply for intrauterine devices (IUDs) and vasectomy, whose method-specific prevalence rates are 0.4% and 0.0%, respectively, is not indicated.

Figure 11. Tanzania: Annual provision of permanent methods and LARCs, total and by service modality



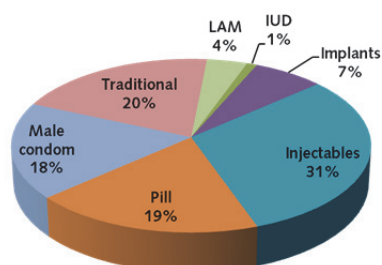
Source: Tanzania national HMIS monthly reports.

* Refers only to mobile services for LARCs and permanent methods provided by the Tanzania Ministry of Health and Social Welfare with support from EngenderHealth through the ACQUIRE Tanzania Project (2007-2012) and the RESPOND Tanzania Project (2012-2014).

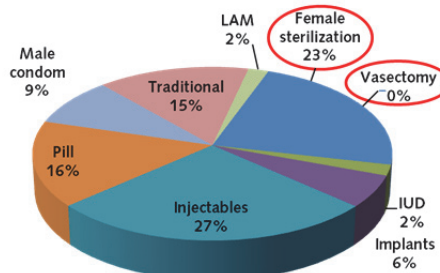
** Includes some "non-mobile" public-sector service provision as well as mobile services provided by private voluntary organizations, some of which are provided collaboratively at public-sector facilities.

Figure 12. Tanzania: Method mix among spacers and limiters

Method mix among spacers



Method mix among limiters



Source: NBS & ICF Macro, 2011. Secondary analysis conducted by the RESPOND Project.

Note: Data are for all women.

Health system strengthening has also been evidenced in Tanzania. With funding from the U.S. Agency for International Development (USAID) and comprehensive technical assistance, training, and other ongoing support from EngenderHealth's ACQUIRE Tanzania Project (2007–2012) and RESPOND Tanzania Project (2012 to the present), capacity has been enhanced at all levels of the health system. More than 9,000 service providers have been trained in family planning counseling, infection prevention, and service provision, including for permanent methods (EngenderHealth, 2013; RTP, 2014). Over 3,700 public-sector facilities in 110 of Tanzania's 169 districts received support for renovations of operating theaters, equipment, supplies, and mobile service delivery. One hundred and five lower-level public-sector facilities were thus enabled to become service sites for permanent method service provision. Trainees for LA/PM clinical services have been routinely followed-up within one month of training to reinforce their capacity

to deliver clinical method services at sites and have also received EngenderHealth-assisted visits to enable the MOHSW to provide supportive supervision and quality assurance at the district level.

With this extensive and consistent technical support from donors and NGOs, the government of Tanzania has doubled the number of its hospitals, health centers, and dispensaries capable of providing at least one permanent method or LARC. Government commitment, capacity, and service expansion are continuing, with almost 100% of districts now making annual budget allocations for family planning and with the amounts allocated per district generally increasing. Tanzania was the first country in Sub-Saharan Africa to develop a national Family Planning Costed Implementation Program (FPCIP), for the period 2010–2015. This plan outlines the activities and resources needed to achieve a 60% CPR by 2015. Perhaps most emblematic of Tanzania's commitment to making family planning services more widely available and accessible is that the President of Tanzania led its delegation to the landmark London Summit on Family Planning in 2012. At the Summit, the Tanzanian government pledged to strengthen actions to reduce unmet need for family planning and achieve its ambitious CPR goal. In 2013, Tanzania held its first-ever national family planning conference and announced a national research agenda for family planning, which includes analysis of counseling and referral for LARCs and permanent methods. The government has also developed a framework contract to substantially streamline its procurement process and to allow NGOs direct access to the Medical Stores Department. These actions and trends suggest that the financial and human resource commitments Tanzania has made to increase its capacity to provide a broad range of methods, including permanent methods, have very good prospects for being sustained over the longer term.

Historical challenges to permanent method provision

Because female sterilization and vasectomy are surgical and permanent, it is essential that family planning programs provide thorough, in-depth counseling to ensure client understanding and voluntary decision making, free of any aspect of coercion and minimizing any poststerilization regret (WHO, 1992; EngenderHealth, 2002). Programs must also obtain and document clients' informed consent to have the procedure performed and take steps to minimize the occurrence of side effects and complications that may arise (as they may with any surgical procedure). Programs have therefore had to ensure that permanent method procedures are provided by persons trained and shown to be skilled in the surgery and that the procedures are provided in appropriate service settings, under conditions where counseling, informed consent, and medical quality and safety can be assured.

In the early years of organized family planning programs (the late 1960s to the early 1980s), when family planning itself was perceived as alien (i.e., Western) and culturally unacceptable in many settings, program efforts focused on gaining credibility and political support. When programs began to focus on expanding contraceptive availability and access, permanent methods were often excluded, especially by the public sector. Their exclusion was also a function of their inherent complexity and the greater resources required to provide them relative to those needed for short-acting resupply methods. Another contributing factor was sterilization's image problem, given the historical associations of involuntary sterilization with eugenics and coercion, as well as the common but mistaken belief equating male sterilization with castration. The very term “sterilization” was burdened with these negative associations—a burden that regrettably persists today in some contexts.

When permanent methods were introduced, private NGOs and physicians—usually obstetrician-gynecologists, urologists, and general surgeons—played a major role in their provision. The methods were consequently offered within specialized settings (including “camps”), which were often isolated from general outpatient, clinic-based family planning services. This approach helped to ensure adequate attention to clinical and counseling skills; training and supervision; infection prevention; and the infrastructure and equipment needed to deliver quality sterilization services regularly and reliably. As

family planning gained wider acceptance over the years in the public sector, national programs began to integrate permanent methods with other contraceptive services being offered. Even when permanent methods became more integrated within a program, however, the nature of their provision often entailed separateness within or beyond a given health care facility, since clients were (and still are) commonly referred to a different unit or a higher-level facility for the procedure. Thus vestiges of sterilization's legacy as a separate (and often marginalized) component of mainstream family planning programs remained. Policy efforts governing service delivery were also needed to permit other cadres besides specialist physicians to provide female sterilization and vasectomy; allow sterilization to be offered on an outpatient basis; and remove unjustified medical barriers based on age, parity, or requirements for spousal consent (Shelton, Angle, & Jacobstein, 1992).

Ongoing challenges to the provision of permanent methods

Many challenges to ensuring wide and equitable access to permanent methods remain in low-resource countries. With limited resources, health systems not only need to provide family planning to the populations they serve, they must also address widespread infectious and chronic diseases (e.g., HIV, malaria, and tuberculosis), as well as meet essential surgery needs. Human and financial resource constraints limit the supply and deployment of clinicians, counselors, supervisors, and trainers (WHO, 2013), including those needed to make permanent methods regularly available and accessible in low-resource countries. Demand-side efforts needed to accurately inform clients and communities are similarly constrained by a lack of resources. Other limiting health system factors include minimal exposure to permanent methods in preservice professional education, which could normalize the provision of permanent methods as a routine health care practice and desirable health system capability; limited in-service caseloads and training opportunities to enable providers to acquire and maintain surgical skills; lack of dedicated space and time available for elective surgery at overcrowded facilities; and the higher up-front cost of delivering permanent method services. Finally, because family planning programs have been oriented primarily to serving women, provision of male-focused information and services continues to be very limited in low-resource countries, as discussed in detail below.

Laws and policies governing who is allowed to provide and receive permanent methods contribute to uncertainty and confusion among program managers, service providers, and potential users regarding what is permissible. A 10-year analysis of the situation in 137 countries conducted in 2002 found that laws permitting sterilization were unclear in 55 countries and that an additional 24 countries had age, parity, and/or consent requirements beyond the woman's own request to receive sterilization (EngenderHealth, 2002). These uncertainties and unjustified restrictions may be diminishing with greater reliance on WHO's *Medical Eligibility Criteria for Contraceptive Use* (WHO, 2010). However, because permanent methods are provider-dependent, providers' interpretations of (even appropriate) laws and policies may also impede clients' full and unrestricted access. Moreover, suboptimal provider practices may result from personal biases against permanent methods, exaggerated fears of recrimination from unhappy users or their partners, or simple failure to realize that women and men wish to limit their future fertility and might want to use a permanent method to do so. Although task sharing/task shifting is increasingly being relied upon (Gordon-Maclean et al., 2014; WHO, 2013), service policies and practices in some settings still place unjustified limits on which health care cadres are perform permanent method procedures.

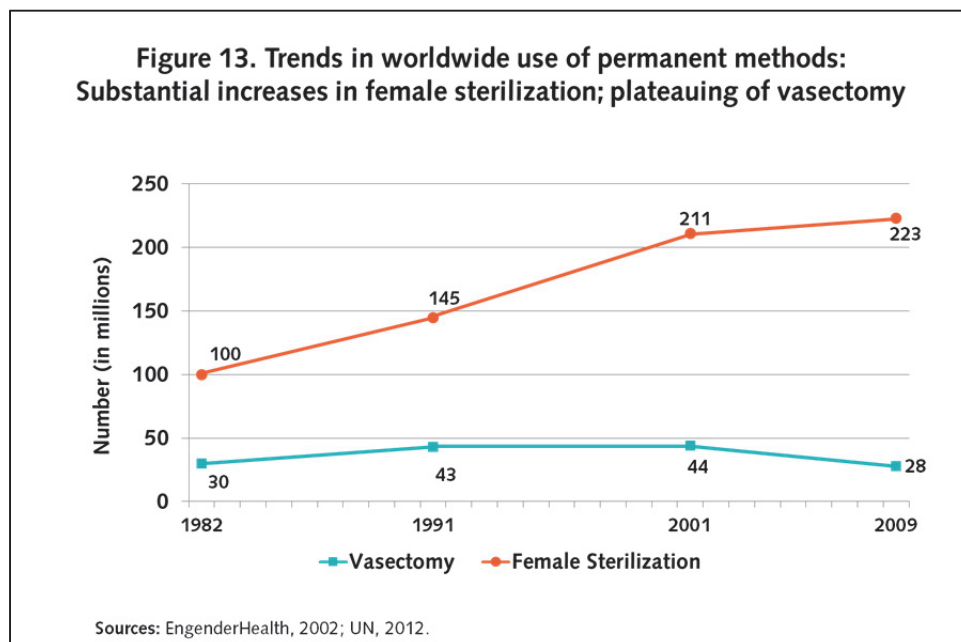
At the client and community levels, gender inequality, family pressure, and/or sociocultural or religious norms that diminish a woman's agency pose barriers to permanent method use in many settings. The extent to which religion may be a barrier to sterilization often depends on the tenets of the particular religion, the interpretation of religious texts by individual religious leaders, the depth of adherence by the client, and the homogeneity of faith in a particular region (RESPOND Project, 2012). The legacy of stigma associated with sterilization abuse in a few places (both historically and currently) continue to mar

sterilization's image more widely, among governments, policymakers, and donors, as well as among communities and individuals (RESPOND Project, 2013). The general absence of efforts by family planning programs to disseminate positive information about permanent methods to clients and communities also likely contributes to limited interest in and demand for them in low-resource settings, notably in Sub-Saharan Africa, despite increasing demand to limit births in this region.

Finally, at the donor and government level, although recent multiorganizational collaborative initiatives such as Family Planning 2020 and the Reproductive Health Supplies Coalition (RHSC) have aimed to “revitalize” family planning, ensure contraceptive security, and meet the vast unmet need of women and men for contraceptive methods and services, such efforts have generally focused on increasing the purchase and availability of products and commodities (Dalberg Global Development Advisors & RHSC, 2014). However, neither vasectomy nor female sterilization is a “product” or a “commodity” (though they do require supplies and equipment). Similarly, they are not “contraceptives,” which implies something tangible (though both are of course “contraceptive methods”). These semantic considerations may contribute to these methods’ being largely overlooked within the implementation of contraceptive security initiatives (Wickstrom & Jacobstein, 2011).

Vasectomy programming: long neglected, specifically needed

Regrettably, the international family planning community has made little progress in expanding the availability of, access to, and use of vasectomy over the past 30 years. Indeed, as seen in Figure 13, the situation has worsened. After having risen to 44 million users globally in 2001 (3.6% prevalence worldwide), vasectomy prevalence fell by 27%, to only 28 million users in 2009 (2.4% prevalence). Fewer vasectomies were performed in 2009 than in 1982, even though the world’s population grew by 2.2 billion and demand to limit births increased in almost all regions. The low use of vasectomy has occurred despite renewed attention to family planning in the donor community and rising modern contraceptive use in low-resource countries. And, ironically, it has occurred in the face of improvements in women’s status and gender equity, and in the absence of the availability of any other male contraceptive methods except condoms. This stagnation has also occurred during the same period in which female sterilization use has more than doubled, from 100 million users in 1982 to more than 220 million users in 2009—even though vasectomy is simpler to perform, safer, and less expensive than female sterilization, and just as highly effective.



Vasectomy availability, access, and use in low-resource countries are low for a number of reasons. In practice, contraception has largely fallen within a woman's responsibility and domain, and therefore most family planning services are geared toward women. Moreover, almost all modern methods of contraception are female methods. In the DHS, vasectomy is almost always the least-known and least-used contraceptive method. Even when it is "known," such knowledge is frequently incomplete or incorrect. Women and men often equate vasectomy with castration; and fears that the procedure will make men uninterested in sex, sexually inadequate, and/or "weak" and less productive are widespread. Gender norms around masculinity and cultural norms around childbearing, use of contraception, and fertility limitation are other factors that often constrain vasectomy as a method option. And even if men or couples do decide to explore accessing a vasectomy, they face difficulties. At the service delivery level, services for men are generally limited. Program and provider biases against vasectomy are also frequently encountered: Providers may lack knowledge, personally dislike the method, be uncomfortable working with men, or have untested assumptions about what men think and want. Nevertheless, some men in every region and cultural, religious, and socioeconomic setting show interest in (and use) vasectomy, despite commonly held assumptions about negative male attitudes or societal prohibitions.

High vasectomy use correlates with high gender equity and high socioeconomic development. Fourteen mainly high-resource countries from Asia, North America, Oceania, and South America have a vasectomy prevalence of 5% or higher (Table 3). Vasectomy use comprises a substantial proportion of the method mix in a number of these countries, including 44% in Bhutan, 30% in Canada, 26% in New Zealand, 25% in the United Kingdom, and 21% in South Korea (UN, 2012). Conversely, few low-resource countries have a vasectomy prevalence above 1%. Vasectomy prevalence is at 0.0% in every region of Africa except Southern Africa, where it is only 0.6%. In all of Africa, fewer than 50,000 women are protected from unwanted pregnancy by a partner's vasectomy, two-thirds of them in South Africa. (In Switzerland alone, more than 84,000 women rely on their partner's vasectomy.) South Asia's vasectomy prevalence is also quite low, at 1.0%.

Table 3. Countries where vasectomy prevalence is 5% or greater, by vasectomy's share of the total CPR

Country	Vasectomy prevalence (%)	% (share) of country's total CPR
Canada	22	30
United Kingdom	21	25
New Zealand	20	26
Korea (South)	17	21
Australia	14	19
Bhutan	14	44
United States	13	16
Switzerland	8	10
Spain	8	12
Netherlands	7	10
Nepal	6	13
Brazil	5	6
Czech Republic	5	7
Denmark	5	6
Source: UN, 2012.		

Holistic, vasectomy-specific initiatives could help add the method to the range of methods available in low-resource countries, just as it is a widely available and widely accessed method in higher-resource countries. Implementation of thoughtful, vasectomy-centered programming, albeit in sporadic, short-term pilot-type projects of 1–2 years duration, has resulted in uptake of vasectomy in the past in countries such as Ghana and Honduras (ACQUIRE Project, 2008a; ACQUIRE Project, 2008b), Tanzania (Bunce et al., 2007), and Rwanda (Shattuck et al., 2014). What is needed, however, is a substantial and sustained demonstration and scale-up initiative.

There are interesting and germane parallels between vasectomy today and male circumcision (for HIV prevention)

a decade ago. Both are surgical preventive measures, with men as the intended clients. Myths and misunderstandings about circumcision were common, as they are now with vasectomy, and men's initial interest in uptake of the procedure was low. But as governments and donors exerted their political will (as reflected in their investment of significant human and financial resources) and as they followed through at the program level with provision of information and services, norms were changed, demand was increased, service provision grew, and male circumcision has now been widely adopted in settings where its use had previously been low to nonexistent.

A vasectomy-focused initiative should be urban-based, because early adopters of vasectomy, usually from the highest education and wealth quintiles, reside mainly in urban areas—as do the policymakers and decision makers to whom feasibility and popular interest need to be demonstrated. Such an initiative would require long-term levels of adequate funding to ensure that changes in knowledge, attitudes, and practices arise and take hold. A substantial part of such an effort would need to be devoted to demand-side activities that address men's concerns, present a positive image, use multiple channels to deliver messages (e.g., radio/TV spots, print, community outreach, telephone hotlines, and counseling opportunities), feature vasectomy providers and satisfied clients as champions, and highlight where male-friendly, male-responsive information and services can be accessed, as illustrated (Figure 14) (ACQUIRE Project, 2008a).

Figure 14. Demand creation needs to address men's and women's concerns about vasectomy



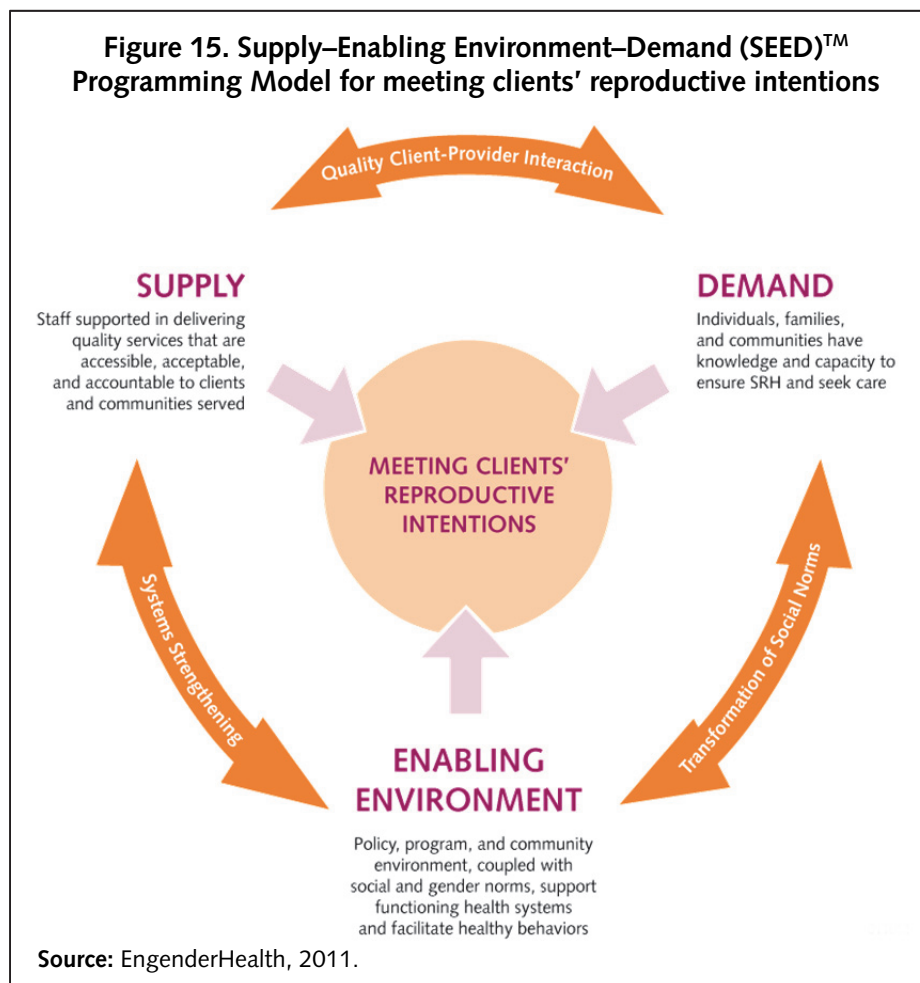
On the supply side, demonstration centers for male reproductive health, including provision of vasectomy, male circumcision, diagnosis and treatment of sexually-transmitted infections, and other male-oriented services, could be established. The initiative would require a committed set of service providers who are confident champions. Donors, program leaders, and managers would need to “stay the course,” since service outputs would likely be quite modest for several years or longer. Whole-site, “team” training, whereby all levels of personnel working at a service site are oriented and trained together, would be needed to ensure the active participation, understanding, and support of all clinic staff, including such gatekeepers as health educators, receptionists, cleaning staff, and guards (Bradley et al., 1998). When program managers and providers take an active role in addressing men's needs, and accurate knowledge of vasectomy increases, men do respond, and vasectomy use rises. This

programmatic approach led to marked increases in vasectomy uptake in Brazil, Colombia, and Mexico in the late 1980s and early 1990s (Jezowski et al., 1995; Vernon, 1996), although skeptics had doubted that vasectomy would be widely adopted in “macho” cultures.

In sum, a concerted and sustained effort could successfully add vasectomy to the method options widely available in the family planning programs of low-resource countries. If this were done, many men and couples who wish to limit future births and share their family planning responsibilities would likely choose vasectomy, as they do in higher-resource countries. Without the sustained allocation of government, donor, and program resources to substantial vasectomy-specific introduction and scale-up initiatives, there will likely be as little progress over the next 30 years as there has been in the past 30.

Holistic and comprehensive programming for permanent methods is needed

After more than four decades of program implementation experience, there is an extensive body of experience and evidence about “what works” to improve access to, quality of, and use of voluntary family planning that meets clients’ reproductive intentions. Most syntheses of this evidence and experience call for comprehensive and holistic programs that address both supply-side and demand-side needs, promote an enabling environment for service delivery, ensure informed choice, and respects rights (Figure 15) (Mwaikambo et al., 2011; Bongaarts et al., 2012; EngenderHealth, 2011; WHO, 2014). Such an approach was followed in Thailand and Colombia and in a number of other country programs cited above. The following sections describe the elements of holistic programming that are most germane to the provision of information on and services for permanent methods.



Promoting an enabling environment

An enabling environment for family planning requires: good service policies that are appropriately and consistently implemented nationwide; adequate financial and human resources; good governance and accountability; and supportive sociocultural norms. Even when these conditions exist for family planning generally, they may be inadequate for permanent methods. A range of advocacy efforts are often needed to ensure that permanent methods are given adequate attention and resources in national family planning programs. Although family planning policies and guidelines typically include female sterilization and vasectomy, there is frequently a gap between appropriate, up-to-date written policies and unwarranted restrictions in actual practice by individual institutions and providers. At the program level, it is important to identify, nurture, and support champions of permanent methods. These committed program leaders, active providers of permanent methods, and satisfied clients can advocate for permanent methods as options that are needed, wanted, and chosen by clients and that are important and feasible for programs to provide.

Generating demand

In most low-resource countries, permanent methods are the least publicized and least known of all modern family planning methods. This is especially true for vasectomy. Even when awareness of permanent methods is relatively high, such knowledge is often incomplete, incorrect, and/or negatively biased. Policymakers, program planners, service providers, religious and community leaders, and potential clients need accurate, up-to-date information about such important facts as: the contribution that permanent methods can make to meeting reproductive intentions; the feasibility of various service modalities for permanent method provision; and locations where permanent methods may be accessed. Broad-based communication strategies and interventions based on formative research on client, community, and provider knowledge, attitudes, and practice are needed (ACQUIRE Project, 2008a; ACQUIRE Project, 2008b; ACQUIRE Project, 2008c). Positive messages need to be disseminated through mass media, community-level social and behavior change communication, interpersonal communication, and counseling. Such messages need to be carefully crafted and targeted, to use permanent method champions (see Figure 14), to be repeated often, and to be reinforced through a variety of communication channels.

Ensuring supply

Permanent methods require consistent and sufficient investments in the health care system over time, to ensure: adequate equipment and supplies; adequate complements and deployment of skilled providers; and a functioning referral system (EngenderHealth, 2002; WHO, 1992). Programs that involve the integration of family planning services with maternal and child health or HIV services must ensure that permanent methods are included in the range of contraceptive methods being made accessible and that appropriate referral networks are in place and functioning reliably and effectively. Other programs that may entail referral for permanent methods (e.g., postpartum or postabortion care [PAC] services, mobile outreach services, or for-profit private-sector initiatives such as social franchising, with or without vouchers) must similarly ensure that permanent methods are truly available, can be accessed, and are being provided well.

Provider considerations

An accurate adage about service delivery for permanent methods is “no provider, no program”: The skilled and motivated provider is an indispensable part of the permanent method service nexus. Shortages of providers for permanent methods can be addressed through task shifting or task sharing (WHO, 2013). This can be from specialist doctors to nonspecialist doctors, as has been done in many low-resource countries, and from doctors to clinical officers and other mid-level providers, as has been done in a number of East and Southern African countries with shortages of doctors—e.g., in Malawi (Jacobstein, 2013), Uganda (Gordon-Maclean et al., 2014), and elsewhere. It is critical to ensure that all permanent method providers, irrespective of cadre, are competent, confident, well-supervised, and fairly compensated (EngenderHealth, 2002; WHO, 1992). It is also important that providers, once trained, maintain their skills via adequate

caseloads. The curricula of preservice professional education need to include permanent methods in their family planning component. This helps to foster the idea that these methods are a routine reproductive health consideration and an expected and necessary component of national family planning programs.

Health system considerations

While there is no single blueprint for incorporating permanent methods into a family planning program, it is important that supply and demand strategies are synchronized, to ensure that interested clients are not frustrated by inadequate supply and that supply does not languish because of low demand. National programs need to ensure that investments in capacity building for permanent methods are not eroded as a result of caseloads insufficient to maintain providers' skills. It is better for a program to train fewer providers and ensure that they are able to use their skills regularly than to train many providers who cannot maintain the skills and confidence needed to provide permanent methods well. If such a strategy is pursued, referral systems need to function extremely well, to ensure that men and women who reside far from the cities where such trained providers are likely to reside receive desired services. Mobile services can also help to meet the permanent method needs of clients who reside in rural areas, as discussed above in the Malawi and Tanzania examples.

Strategies that take a “total market approach” and that mobilize action and partnership among the public, NGO, and private for-profit sectors have the potential to address supply and demand in tandem, to promote an overall positive program environment for permanent methods, and to foster wider and more equitable access to them (Barnes, Vail, & Crosby, 2012). Social franchising and various health insurance modalities can be helpful, with or without subsidized vouchers and other mechanisms, such as sliding fee scales or fee exemptions, to ensure that cost to the client is not a barrier to equitable access and use. The availability of skilled providers for permanent methods will vary greatly by region, country and specific method, and the appropriateness of specific initiatives within a total market approach will therefore vary accordingly.

The importance of quality and systems strengthening

Programmatic initiatives to scale up permanent method availability and access in all sectors require attention to maintaining and monitoring clinical quality and informed choice, in a more intensive and systematic manner than with other contraceptive methods that are neither permanent nor surgical. Building the capacity of service delivery institutions to monitor and ensure the quality of their permanent method services is a priority intervention that confers benefits beyond permanent methods alone (EngenderHealth, 2002). The quality of permanent method provision can be a marker of quality of care, rights, and choice overall, and the processes needed to deliver permanent methods with good quality can be generalized to other health services. Increasing equitable access to safe, essential surgical services is emerging as a global health priority (Lancet Commission, 2014). Investing in permanent method services can therefore also contribute to, and be synergistic with, health systems strengthening initiatives for other clinical and essential surgical services.

Research agenda

Key knowledge and evidence gaps regarding permanent methods remain to be addressed. The last comprehensive analysis and status report to address female sterilization and vasectomy, EngenderHealth's *Contraceptive Sterilization: Global Issues and Trends*, was published in 2002 and was based on data generated in the 1980s and 1990s. An updated version would be very useful to the international family planning community. More research is needed to explore and better understand the dynamics of use and nonuse of permanent methods in different country contexts. For example, not enough is known about women's and men's perspectives and motivation, decision-making processes and constraints, and experiences in accessing permanent methods in most low-resource countries, especially

in Sub-Saharan Africa. Much existing research focuses on “sterilization regret” and explores the long-term outcome of the decision to obtain female sterilization. Risk factors are similar across studies and include young age (under 30), decisions made under duress, and changed family circumstances. However, the *lack* of the option to receive a desired permanent method can also be understood as a major cause of “regret” and an inequity within and across countries that warrants further study. One study in Zimbabwe found that 2.5% of women who chose to receive a sterilization procedure subsequently regretted their decision, whereas 40% of women who wanted a sterilization procedure but were unable to obtain it regretted their inability to do so (Verkyul, 2002). Clinical research is also needed regarding such issues as pain management and surgical technique (MSI, EngenderHealth, IntraHealth International, et al., 2014) and optimal postoperative follow-up (e.g., via m-health).

At the program and health system levels, more needs to be known about cost. This is particularly important because the up-front costs of establishing, maintaining, and/or expanding a program can be high. While permanent methods are cost-effective over time (Tumlinson et al., 2011; Singh & Darroch, 2012), research is needed to better elucidate the costs and potential cost savings, as well as the health and other benefits of permanent methods for individuals and health systems. This will be essential in advocating with policymakers and donors for the resource investments needed to implement demand and supply strategies that increase information on and services for permanent methods. Other areas of priority health system research include the study of the feasibility, cost, and effectiveness of different service modalities and approaches—e.g., mobile outreach services, fixed services (including possible “centers of excellence”), task shifting, use of dedicated providers, and integration with other health services. Initiatives to increase vasectomy knowledge, availability, and use, such as those described above, would need a robust operations research agenda to assess and document effective interventions. Finally, the increased attention to ensuring accountability and human rights occasioned by FP2020 (WHO, 2014) also provides an important opportunity to test innovative and practical methodologies for monitoring informed choice and consent in family planning programs and to ensure that programs are fundamentally oriented to clients’ needs.

Conclusion

Demand to limit further childbearing will continue to rise in low-resource countries as desired family size continues to fall. If family planning programs are to fully meet the needs and preferences of the women and men they serve, across their entire reproductive life cycle, it is essential that consistent and adequate financial and program investments be made, with appropriate monitoring and analysis of results and lessons learned, to ensure that both permanent methods become meaningful method options in low-resource countries. When vasectomy and female sterilization are made available, accessible, and affordable, millions of men and women in low-resource countries will choose them, just as millions of men and women in higher-resource countries do. The methods will become a normal component of the method mix: widely and routinely available and accessible, freely chosen, well-provided, and satisfactorily used.

Widespread uptake of permanent methods has been the experience of Colombia and Thailand and other countries that have made the transition to being higher-resource countries, in part because of their very commitment to making a broad mix of modern contraceptive methods, including permanent methods, widely available and equitably accessible. Low-resource countries such as Malawi and Tanzania, following different programming models, have also increased their citizens’ well-being by expanding contraceptive options, services, and use. If governments, national family planning programs, and donors do not ensure adequate and consistent funding and elevated priority for permanent methods, including vasectomy, within the context of client rights and choice, then women and men will be suboptimally served, and inequities within countries, across regions, between sexes, and among socioeconomic strata will be perpetuated. Investing in permanent methods is not only a matter of health and development; it is a matter of equity and social justice. It should be done, and it can be done.

References

- The ACQUIRE Project. 2008a. Revitalizing underutilized family planning methods: Assessing the impact of an integrated supply-demand vasectomy initiative in Ghana. *Acquiring Knowledge*, No. 13. New York: EngenderHealth/The ACQUIRE Project.
- The ACQUIRE Project. 2008b. Revitalizing underutilized family planning methods: Using communications and community engagement to stimulate demand for vasectomy in Honduras. *Acquiring Knowledge*, No. 10. New York: EngenderHealth/The ACQUIRE Project.
- The ACQUIRE Project. 2008c. Revitalizing underutilized family planning methods: Using communications and community engagement to stimulate demand for vasectomy in Bangladesh. *Acquiring Knowledge*, No. 9. New York: EngenderHealth/The ACQUIRE Project.
- American College of Obstetricians and Gynecologists (ACOG). 2013. Practice Bulletin No. 133. Benefits and risks of sterilization. *Obstetrics and Gynecology* 121(2, pt1):392–404.
- Barnes, J., Vail, J., and Crosby, D. 2012. *Total market initiatives for reproductive health*. Bethesda, MD: Strengthening Health Outcomes through the Private Sector (SHOPS) Project/Abt Associates.
- Bongaarts, J., Cleland, J., Townsend, J. W., Bertrand, J., and Gupta, M. D. 2012. *Family planning programs for the 21st century. Rationale and design*. New York: Population Council.
- Bradley, J., Lynam, P., Dwyer, J., and Wambwa, G. 1998. Whole-site training: A new approach to the organization of training. *AVSC Working Paper No. 11*. New York. Retrieval at: http://www.engenderhealth.org/pubs/workpap/wp11/wp_11.html.
- Bunce, A., Guest, G., Searing, H., Frajnzgier, V., Riwa, P., Kanama, J and Achwal, I. 2007. Factors affecting vasectomy acceptability in Tanzania. *International Family Planning Perspectives*. 33(1):13–21.
- Chayovan, N., Kamnuansilpa, P., and Knodel, J. 1988. *Thailand Demographic and Health Survey 1987*. Bangkok: Institute of Population Studies/Chulalongkorn University; and Columbia, MD: Institute for Resource Development/Westinghouse. Accessed at: <http://dhsprogram.com/pubs/pdf/FR37/FR37.pdf>.
- Dalberg Global Development Advisors and Reproductive Health Supplies Coalition (RHSC). 2014. *Market shaping for family planning: An analysis of current activities and future opportunities to improve the effectiveness of family planning markets*. Brussels. Accessed at: www.rhsupplies.org/fileadmin/user_upload/Market_Shaping/Resources/Dalberg_Report_Market_Shaping_for_Family_Planning_WEB.pdf.
- EngenderHealth. 2002. *Contraceptive sterilization: Global issues and trends*. New York.
- EngenderHealth. 2011. *The SEED assessment guide for family planning programming*. New York.
- EngenderHealth. 2013. *The ACQUIRE Tanzania Project Final Report: November 2007–March 2013*. Dar es Salaam.
- Gordon-Maclean, C., Nantayli, L. K., Quinn, H., and Ngo, T. D. 2014. Safety and acceptability of tubal ligation procedures performed by trained clinical officers in rural Uganda. *International Journal of Gynaecology and Obstetrics* 124(1):34–37.
- Jacobstein R. 2013. Lessons from the recent rise in use of female sterilization in Malawi. *Studies in Family Planning* 44(1):85–95.
- Jacobstein, R., Bakamjian, L., Pile, J., and Wickstrom, J. 2009. Fragile, threatened, and still urgently needed: family planning programs in sub-Saharan Africa. *Studies in Family Planning* 40(2):147–154.
- Jezowski, T., Alarcón, F., Juárez, C., Estrada, A., and Gómez F. 1995. A successful national program for expanding vasectomy services: The experience of the Instituto Mexicano del Seguro Social. *AVSC Working Paper No. 8*. New York.

Kenya National Bureau of Statistics (KNBS) and ICF Macro. 2010. *Kenya Demographic and Health Survey 2008-09*. Calverton, MD.

Lancet Commission on Global Surgery, retrievable at: <http://www.globalsurgery.info/about-the-commission/>.

Marie Stopes International (MSI), EngenderHealth, IntraHealth International, et al. 2014. *Increasing access to high-quality voluntary permanent methods of contraception in low-resource settings. Consensus statement*. London and New York.

Ministère du Plan et Suivi de la Mise en oeuvre de la Révolution de la Modernité, Ministère de la Santé Publique, et MEASURE DHS. 2014. *Enquête Démographique et de Santé en République Démocratique du Congo (EDS-RDC II): Rapport Préliminaire*. Rockville, MD: ICF International.

Mwaikambo, L., Speizer, I. S., Schurmann, A., Morgan, G., and Fikree, F. 2011. What works in family planning interventions: A systematic review. *Studies in Family Planning* 42(2):67–82.

National Bureau of Statistics [Tanzania] (NBS) and ICF Macro. 2011. *Tanzania Demographic and Health Survey 2010*. Dar es Salaam, Tanzania.

National Institute of Population Research and Training [Bangladesh] (NIPORT), Mitra and Associates, and ICF International. 2013. *Bangladesh Demographic and Health Survey 2011*. Dhaka and Calverton, MD.

National Population Commission [Nigeria] (NPC) and ICF International. 2014. *Nigeria Demographic and Health Survey 2013*. Abuja, Nigeria, and Rockville, MD.

National Statistical Office [Malawi] (NSO) and ICF Macro. 2011. *Malawi Demographic and Health Survey 2010*. Zomba, Malawi and Calverton, MD.

Profamilia (Asociación Probienestar de la Familia Colombiana). 2011. *Encuesta Nacional de Demografía y Salud, Colombia, 2010*. Bogotá.

Reproductive Health Supplies Coalition. 2014. New/Underused RH Technologies Caucus. Brussels. Accessed at: www.rhsupplies.org/working-groups/newunderused-rh-technologies-caucus.html.

RESPOND Tanzania Project (RTP). 2014. *Annual report, Nov. 2012–Sept. 2013*. Dar es Salaam.

The RESPOND Project. 2012. *Synthesis of female sterilization literature review*. Unpublished background report prepared for Bellagio Consultation. New York: EngenderHealth. Accessed at: www.respond-project.org/pages/bellagio/Lit-Review-Synthesis-Final-8-22-12.pdf.

The RESPOND Project. 2013. *A fine balance: Contraceptive choice in the 21st century—an action agenda. Report of the September 2012 Bellagio conference*. New York: EngenderHealth/The RESPOND Project.

Ross, J. and Stover, J. 2013. Use of modern contraception increases when more methods become available: analysis of evidence from 1982–2009. *Global Health: Science and Practice* 1(2):203–212. Retrieved from: www.ghspjournal.org/content/1/2/203.full.

Shattuck, D., Wesson, J., Nsengiyumva, T., Kagabo, L., Bristow, H., Zan, T., and Ngabo, F. 2014. Who chooses vasectomy in Rwanda? Survey data from couples who chose vasectomy, 2010-2012. *Contraception* 89(6):564–571.

Shelton, J.D., Angle, M., and Jacobstein, R. 1992. Medical barriers to access to family planning. *Lancet* 340 (8831):1334–1335.

Singh, S., and Darroch, J. E. 2012. *Adding it up: Costs and benefits of contraceptive services—Estimates for 2012*. New York: Guttmacher Institute and United Nations Population Fund (UNFPA).

Trussell, J. Contraceptive failure in the United States. 2011. *Contraception* 83(2):397–404.

- Tumlinson, K., Steiner, M. J., Rademacher, K. H., Olawo, A., Solomon, M., and Bratt, J. 2011. The promise of affordable implants: Is cost recovery possible in Kenya? *Contraception* 83(1):88–93.
- United Nations (UN). 2012. *World contraceptive use, 2011*. New York: Population Division, Department of Economic and Social Affairs.
- UN. 2014. *World contraceptive patterns 2013*. New York: Population Division, Department of Economic and Social Affairs.
- Van Lith, L. M., Yahner, M., and Bakamjian, L. 2013. Women's growing desire to limit further births in sub-Saharan Africa: Meeting the challenge. *Global Health: Science and Practice* 1(1):97–107. Retrieved at: <http://www.ghspjournal.org/content/1/1/97.full>.
- Verkyul, D. A. 2002. Sterilisation during unplanned caesarean sections for women likely to have a completed family—should they be offered? Experience in a country with limited health resources. *British Journal of Obstetrics and Gynecology* 109(8):900–904.
- Vernon, R. 1996. Operations research on promoting vasectomy in three Latin American countries. *International Family Planning Perspectives* 22(1):26–31.
- Wickstrom, J., and Jacobstein, R. 2011. Contraceptive security: incomplete without long-acting and permanent methods of family planning. *Studies in Family Planning* 42(4):291–298.
- World Health Organization (WHO). 1992. *Female sterilization: A guide to provision of services*, Geneva.
- WHO. 2010. *Medical eligibility criteria for contraceptive use, 4th edition*. Geneva.
- WHO. 2013. *Task shifting to improve access to contraceptive methods*. Geneva.
- WHO. 2014. *Ensuring human rights in the provision of contraceptive information and services: Guidance and recommendations*. Geneva. Retrieved at: http://apps.who.int/iris/bitstream/10665/102539/1/9789241506748_eng.pdf.

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